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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HARNESSE, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER

NGUYEN, DUSTIN

ART UNIT PAPER NUMBER

2154

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,153

Applicant(s)

FEDER ET AL

Examiner

Dustin Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-14, 18-20 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 15-17 and 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-26 are presented for examination.

Response to Arguments

2. In view of the Appeal Brief filed on 11/29/2004, PROSECUTION IS HEREBY REOPENED. A non-final Office Action is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Interview Summary

3. On May 2, 2005, Examiner conducted an interview with Applicants' attorney, Mr. Ray Heflin. Mr. Heflin agrees to correct the error in the formula of claim 6 and in the specification

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page 10, lines 9 to produce the right result of Table II on page 10. Mr. Heflin also agrees to amend claim 7 to correctly describe the result of Table I on page 10 of the specification.

Allowable Subject Matter

4. Claims 5, 6, 15-17, 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 7, 8, 12-14, 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. [US Patent No 6,285,662], in view of Abi-Nassif [US Patent No 6,215,792].

7. As per claim 1, Watanabe discloses a method of transmitting data over a medium, the method comprising the step of:

obtaining a back-off delay window for retransmitting a data packet [col 8, lines 17-24], the back-off delay window obtained being based upon a number of unsuccessful transmissions of the data packet or a predetermined initialized value [col 5, lines 43-46; and col 8, lines 36-46].

Watanabe does not specifically disclose the obtained back-off delay window is less than two times a preceding back-off delay window.

Abi-Nassif discloses the obtained back-off delay window is less than two times a preceding back-off delay window [i.e. the new backoff window size less than the second backoff window size] [col 8, lines 15-18].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Watanabe and Abi-Nassif because Nassif's teaching of back-off delay window would allow Watanabe's system to dynamically adjust the backoff window size used during a ranging and adjustment process in an attempt to maximize the probability of success outcomes during contention access [Abi-Nassif, col 2, lines 5-8].

8. As per claim 4, Watanabe discloses the obtained back-off delay is determined using a formula [col 10, lines 33-45; and col 11, lines 46-60].

9. As per claim 7, Watanabe discloses method of transmitting data over a medium, the method comprising the step of:

obtaining a back-off delay window for retransmitting a data packet [col 8, lines 17-24], the back-off delay window obtained being based upon a number of unsuccessful transmissions of the data packet or a predetermined initialized value [col 5, lines 43-46; and col 8, lines 36-46].

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Watanabe does not specifically disclose the obtained back-off delay window is equal to a preceding or future back-off delay window.

Abi-Nassif discloses the obtained back-off delay window is equal to a preceding or future back-off delay window [i.e. previous and current window are equal to window size 512] [col 10, lines 60-63].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Watanabe and Abi-Nassif because Abi-Nassif's teaching of back-off delay window would allow Watanabe's system to control and adjust contention window that can reduce delay in network retransmission.

10. As per claim 8, Watanabe discloses the preceding back-off delay window is a back-off delay window which occurred immediately prior to the obtained back-off delay window [col 11, lines 60-65].

11. As per claim 12, it is rejected for similar reason as stated above in claim 4.

12. As per claim 13, Watanabe disclose the formula for determining the obtained back-off delay contains a function for converting a non-integer value to an integer value [col 5, lines 26-29].

13. As per claim 14, Watanabe discloses the function converts the non-integer value to a smallest integer value which is greater than the non-integer value [col 11, lines 53-54].

14. As per claim 25, Watanabe does not specifically disclose the preceding back-off delay window is less than a maximum back-off delay window. Abi-Nassif discloses the preceding back-off delay window is less than a maximum back-off delay window [col 11, lines 16-14]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Watanabe and Abi-Nassif because it would enable the system to report error and stop transmitting if the delay time is too large.

15. As per claim 26, it is rejected for similar reasons as stated above in claim 25.

16. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. [US Patent No 6,285,662], in view of Berkema et al. [US Patent No 5,699,515].

17. As per claim 18, Watanabe discloses a method of transmitting data over a medium, the method comprising the steps of:

transmitting a data packet without contention [col 3, lines 51-55].

Watanabe does not specifically disclose decreasing a back-off delay window for transmitting a next data packet, the decreased back-off delay window resulting in an obtained back-off delay window being greater than a smallest back-off delay window, and wherein the decrease in the back-off delay window is based upon a variable integer value or an predetermined value.

Berkema discloses decreasing a back-off delay window for transmitting a next data packet [Abstract; col 2, lines 25-28; and col 6, lines 59-63], the decreased back-off delay window resulting in an obtained back-off delay window being greater than a smallest back-off delay window [col 4, lines 2-4], and wherein the decrease in the back-off delay window is based upon a variable integer value or a predetermined value [col 6, lines 44-46].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Watanabe and Berkema because Berkema's teaching of back-off delay window would enable dynamic adjust back-off window size to improve system performance.

18. As per claim 19, Watanabe discloses if the obtained back-off delay window is less than a predetermined minimum back-off window, the obtained back-off delay window is set equal to a predetermined minimum back-off window [col 9, lines 33-53].

19. As per claim 20, Watanabe discloses the obtained back-off delay window is found by subtracting two from a variable value corresponding a number of unsuccessful transmissions of a previously transmitted data packet, the resulting difference is then applied to a formula to generate the obtained back-off delay window [col 11, lines 53-56].

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20. Claims 2, 3, 9-11, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. [US Patent No 6,285,662], in view of Abi-Nassif [US Patent No 6,215,792], and further in view of Shaffer et al. [US Patent No 6,172,983].

21. As per claim 2, Watanabe and Abi-Nassif do not specifically disclose the obtained back-off delay window is found using a lookup table. Shaffer discloses the obtained back-off delay window is found using a lookup table [Figure 1]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Watanabe, Abi-Nassif and Shaffer because Shaffer's teaching of lookup table would allow to manage data transmission collisions such that a high network throughput and a low network latency are achieved in a cost efficient manner [Shaffer, col 3, lines 24-30].

22. As per claim 3, Shaffer discloses the lookup table comprises predetermined back-off delay window values determinable based upon a number times a given data packet is unsuccessfully transmitted [Figure 1; and col 5, lines 1-7].

23. As per claim 9, Watanabe and Abi-Nassif do not specifically disclose the future back-off delay window is a back-off delay window which occurs immediately following the obtained back-off delay window. Shaffer discloses the future back-off delay window is a back-off delay window which occurs immediately following the obtained back-off delay window [col 6, lines 36-39]. It would have been obvious to a person skill in the art at the time the invention was

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made to combine the teaching of Watanabe, Abi-Nassif and Shaffer because Shaffer's teaching would allow to increase system performance.

24. As per claim 10, it is rejected for similar reason as state above in claim 2.

25. As per claim 11, it is rejected for similar reason as stated above in claim 3.

26. As per claim 24, Watanabe discloses the obtained back-off delay window is found by subtracting two from a variable integer value corresponding the number of unsuccessful transmissions of a previously transmitted data packet [col 11, lines 53-56]. Watanabe and Abi-Nassif do not specifically disclose the resulting difference is then applied to a lookup table containing back-off delay window values to thereby reference a corresponding back-off delay window. Shaffer discloses the resulting difference is then applied to a lookup table containing back-off delay window values to thereby reference a corresponding back-off delay window [Figure 1; and 104, Figure 5]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Watanabe, Abi-Nassif and Shaffer because Shaffer's teaching would provide an effective way to control retransmission traffic.

27. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (571) 272-3971. The examiner can normally be reached on flex schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Follansbee John can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dustin Nguyen
Examiner
Art Unit 2154



VIET D. VU
PRIMARY EXAMINER